

Saturday, October 5, 2024
Time of Issue: 1400 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

On further Withdrawal of Southwest Monsoon

- ✓ The southwest monsoon has further withdrawn from some more parts of Uttar Pradesh, Gujarat Region, Madhya Pradesh, some parts of Maharashtra and most parts of North Arabian Sea today the 5th October 2024.
- ✓ The **line of withdrawal of Southwest Monsoon** now passes through 29°N/84°E, Nautanwa, Sultanpur, Panna, Narmadapuram, Khargaon, Nandurbar, Navsari and 20°N/70°E.
- ✓ Conditions are favourable for further **withdrawal of Southwest Monsoon** from remaining parts of Gujarat, Madhya Pradesh and some more parts of Maharashtra during next 2-3 days.

Weather Systems:

- ✓ An **upper air cyclonic circulation** lies over northern parts of Gangetic West Bengal & neighbourhood in lower tropospheric levels.
- ✓ An **upper air cyclonic circulation** lies over westcentral Bay of Bengal off Andhra Pradesh coast in lower and middle tropospheric levels.
- ✓ A **cyclonic circulation** lies over northeast Assam & neighbourhood and another **cyclonic circulation** lies over north Pakistan & adjoining Punjab in lower tropospheric levels.

Forecast & Warnings (upto 7 days):

East & Northeast India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Northeast India, Andaman & Nicobar Islands during the week and West Bengal & Sikkim during next 2 days; Isolated to Scattered light to moderate rainfall over East India region during the remaining part of the week.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Meghalaya, Arunachal Pradesh on 05th October.
- ✓ **Isolated heavy rainfall** also very likely over Arunachal Pradesh, Assam & Meghalaya during next 7 days; Nagaland, Manipur, Mizoram & Tripura on 05th, 08th & 09th; Sub-Himalayan West Bengal & Sikkim on 05th October.

South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Kerala & Mahe, Lakshadweep, Karnataka, Tamil Nadu during the week; Isolated to Scattered light to moderate rainfall very likely over Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana during the week.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 5th; Kerala & Mahe on 05th & during 08th -11th October.
- ✓ **Isolated heavy rainfall** also very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe during next 7 days; South Interior Karnataka during 05th-09th; Rayalaseema on 05th & 06th; Coastal Karnataka during 06th-08th; Lakshadweep during 08th -11th October.

Northwest, West & Central India:

- ✓ No significant rainfall likely over these regions during next one week.

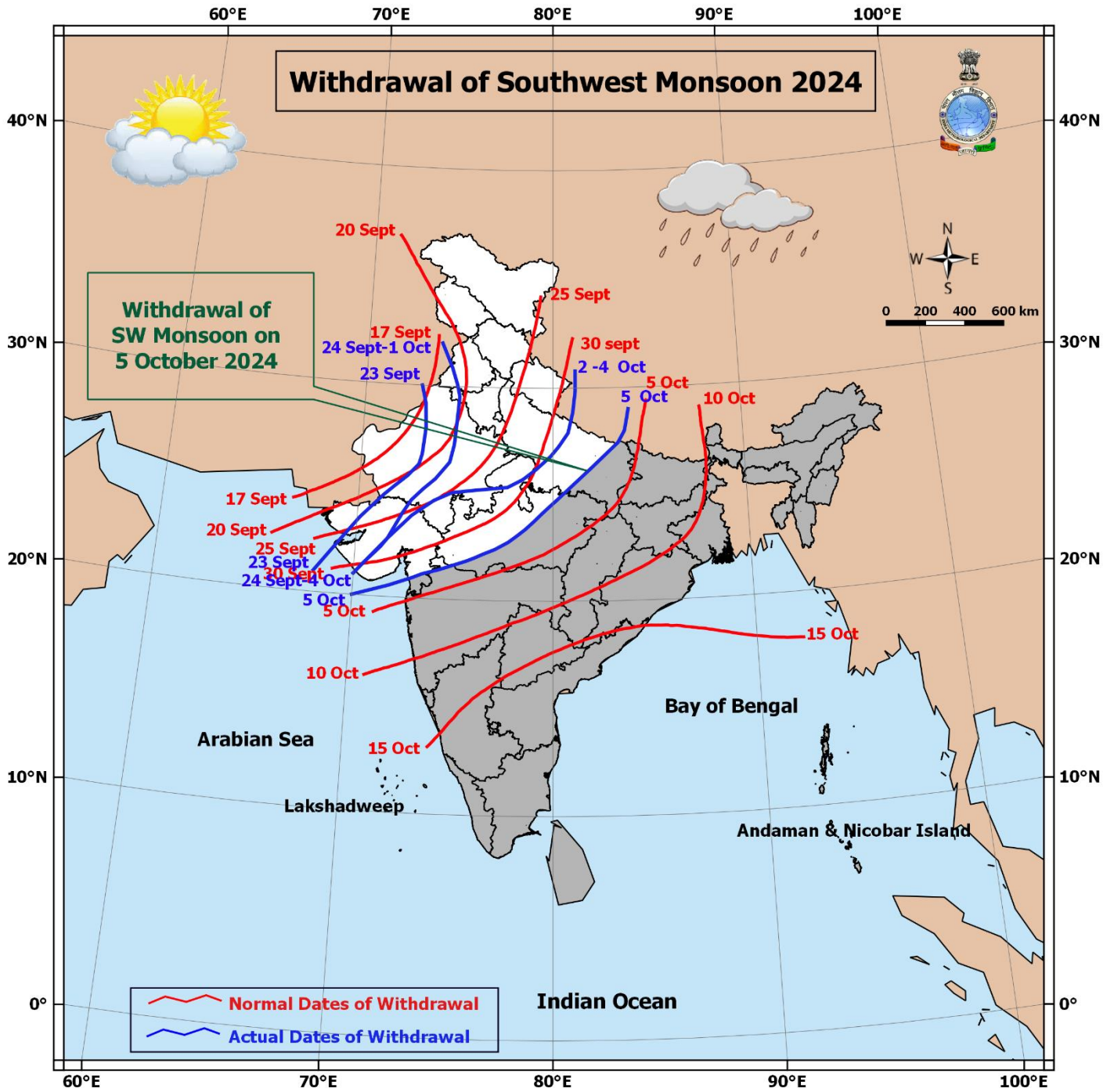
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): at most places over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka; **at many places** over Gangetic West Bengal, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema; **at a few places** over Telangana, North Interior Karnataka; **at isolated places** over Himachal Pradesh, Uttarakhand, Haryana, East Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Odisha, Konkan & Goa, Madhya Maharashtra, Marathwada.
- ❖ **Heavy rainfall** recorded (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy to very Heavy rainfall with extremely heavy fall** realized at isolated places over Assam & Meghalaya; **Heavy to very Heavy rainfall** at isolated places over Arunachal Pradesh, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka; **Heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Jharkhand, Odisha, Kerala & Mahe, Rayalaseema, Telangana, Coastal Karnataka.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Assam & Meghalaya:** Mawsynram (dist East Khasi Hills) 24, Nongstein (dist West Khasi Hills) 16, Cherrapunji(rkm) (dist East Khasi Hills) 15; **Jharkhand:** Narayanpur (dist Jamtara) 12, Putki (dist Dhanbad) 7, Putki Dvc (dist Dhanbad) 7; **Tamil Nadu:** Me Mathur (dist Cuddalore) 13; Avudayarkoil (dist Pudukkottai), Thirukkanur (dist Puducherry), Thangachimadam (dist Ramanathapuram) 12 each; **South Interior Karnataka:** Agumbe Emo (dist Shivamogga) 17, Nayakanahatty (dist Chitradurga) 13, Hosadurga (dist Chitradurga) 7; **Rayalaseema:** Santhipuram (dist Chittoor) 11, Rayadurg (dist Anantapuramu) 8, Chilamathur (dist Sri Sathyasai District) 7, Lepakshi (dist Sri Sathyasai District) 7; **Arunachal Pradesh:** Kamba Aws (dist West Siang) 9, Yingkiong (dist Upper Siang) 9, Daparijo (dist Upper Subansiri) 8; **Kerala & Mahe:** Idukki (dist Idukki) 9, Cheruthoni (dist Idukki) 9; **Telangana:** Yellareddy (dist Kamareddy) 8; **Coastal Karnataka:** Dharmasthala (dist Dakshina Kannada) 8; **Tamil Nadu:** Vanur (dist Villupuram) 8; **Odisha:** Chandanpur (dist Mayurbhanj) 8; **Sub-Himalayan West Bengal & Sikkim:** Yuksom (dist Gyalshing) 7; **Andaman & Nicobar Islands:** Hut Bay (dist South Andaman) 7.
- ❖ **Minimum Temperature Departures (as on 05-10-2024):** Minimum temperatures are **appreciably above normal (3.0°C to 5.0°C)** at a few places over Punjab, East Rajasthan; at isolated places over Haryana-Chandigarh-Delhi, Uttar Pradesh, West Rajasthan, East Madhya Pradesh; **above normal (1.6°C to 3.0°C)** at a few places over West Madhya Pradesh, Coastal Andhra Pradesh & Yanam, Marathwada, Gujarat Region; at isolated places over Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Bihar, Jharkhand, Odisha, Chhattisgarh, Vidarbha, Madhya Maharashtra, Konkan & Goa, Kerala & Mahe, Telangana, Saurashtra & Kutch. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Assam & Meghalaya. Today, the lowest minimum temperature of **18.8°C** is reported at **Dhar (West Madhya Pradesh)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 04-10-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Coastal Andhra Pradesh & Yanam; at isolated places over Chhattisgarh, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Odisha; **above normal (1.6°C to 3.0°C)** at a few places over Uttar Pradesh; at isolated places over East Rajasthan, East Madhya Pradesh, Punjab, Haryana-Chandigarh-Delhi, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Konkan & Goa, Jharkhand, Telangana. These were **appreciably below normal (-3.1°C to -5.0°C)** at many places over Assam & Meghalaya; **below normal (-1.6°C to -3.0°C)** at isolated places over Gangetic West Bengal, West Madhya Pradesh, Gujarat state and **near normal** over rest parts of the country. Yesterday, the **highest Maximum Temperature** of **39.9°C** was reported at **Ganganagar (West Rajasthan)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0830 hours IST)

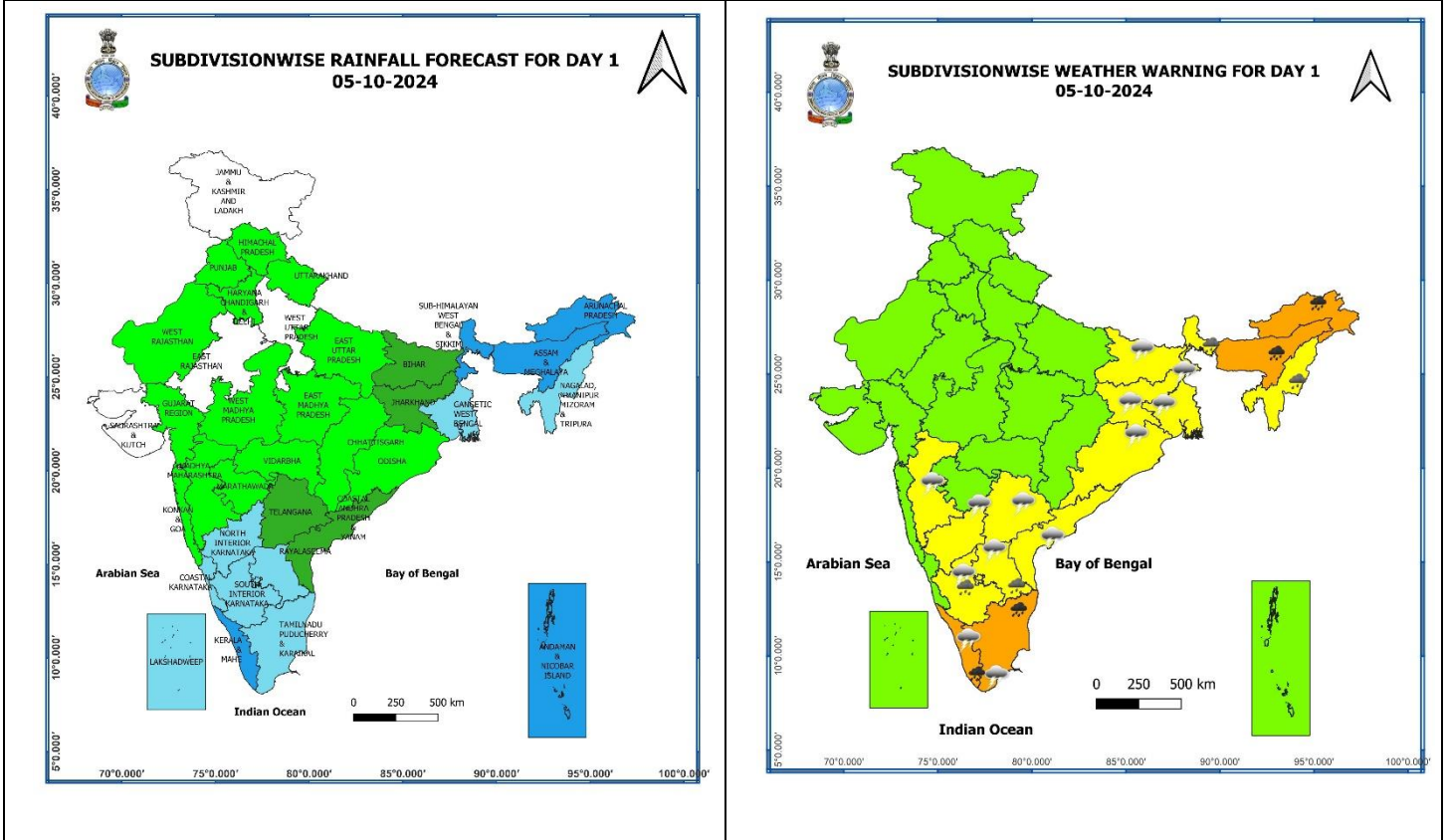
- ❖ Today, the southwest monsoon has further withdrawn from some more parts of Uttar Pradesh, Gujarat, Madhya Pradesh; some parts of Maharashtra and most parts of North Arabian Sea.
- ❖ The **line of withdrawal of Southwest Monsoon** now passes through 29°N/84°E, Nautanwa, Sultanpur, Panna, Narmadapuram, Khargaon, Nandurbar, Navsari and 20°N/70°E.
- ❖ Conditions are favourable for further **withdrawal of Southwest Monsoon** from remaining parts of Gujarat, Madhya Pradesh and some more parts of Maharashtra during next 2-3 days.
- ❖ The **low pressure area** over north Bay of Bengal & adjoining coastal areas of Bangladesh & West Bengal has become less marked. However, the associated **cyclonic circulation** lies over northern parts of Gangetic West Bengal & neighbourhood and extends upto 3.1 km above mean sea level.
- ❖ The **upper air cyclonic circulation** over north Bangladesh & adjoining Sub-Himalayan West Bengal has merged with the above cyclonic circulation.
- ❖ The **upper air cyclonic circulation** over westcentral and adjoining south Bay of Bengal now lies over westcentral Bay of Bengal off Andhra Pradesh coast between 1.5 km to 4.5 km above mean sea level tilting southwestwards with height.
- ❖ A **cyclonic circulation** lies over north Pakistan & adjoining Punjab at 1.5 km above mean sea level.
- ❖ A **cyclonic circulation** lies over northeast Assam & neighbourhood and extends upto 1.5 km above mean sea level.
- ❖ The **trough** from northeast Uttar Pradesh to the above cyclonic circulation over north Bangladesh & adjoining Sub-Himalayan West Bengal across Bihar at 0.9 km above mean sea level has become less marked.
- ❖ The **cyclonic circulation** over southeast Arabian Sea extending upto 1.5 km above mean sea level has become less marked.
- ❖ The **trough** from the above **cyclonic circulation** over southeast Arabian Sea to south Kerala at 0.9 km above mean sea level has become less marked.

Withdrawal of Southwest Monsoon 2024



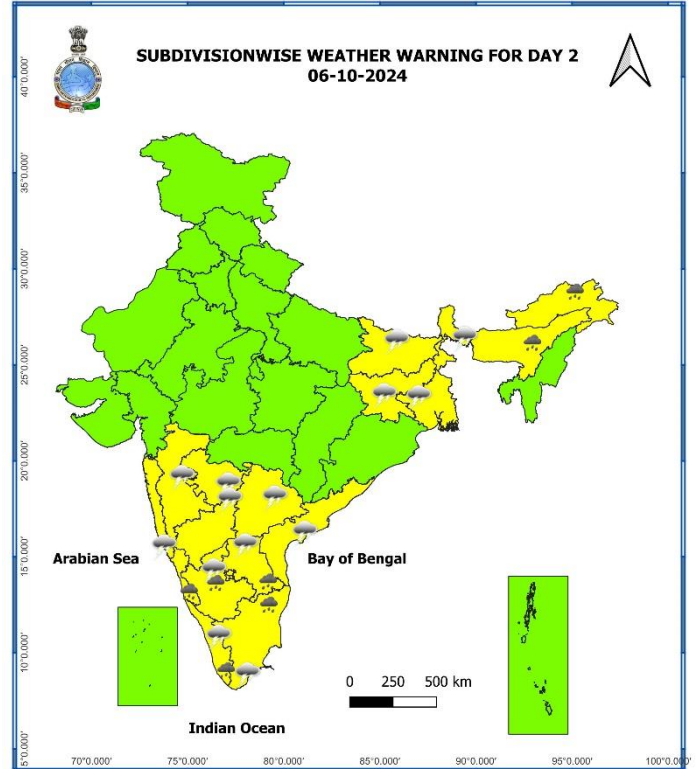
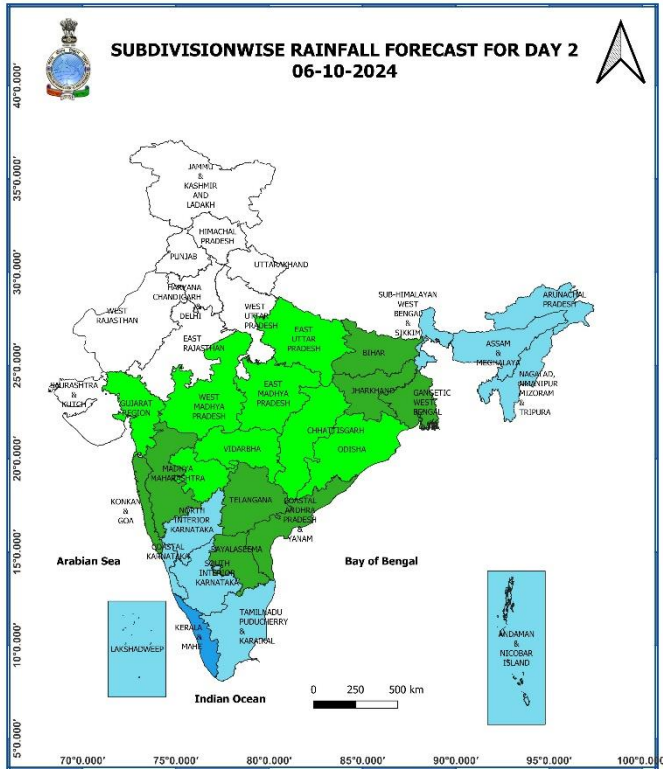
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 Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
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Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 12th October, 2024)



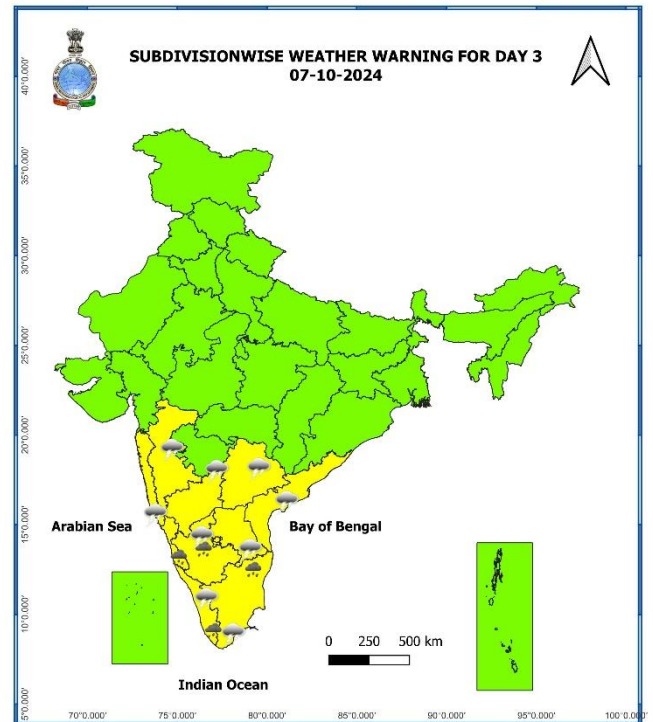
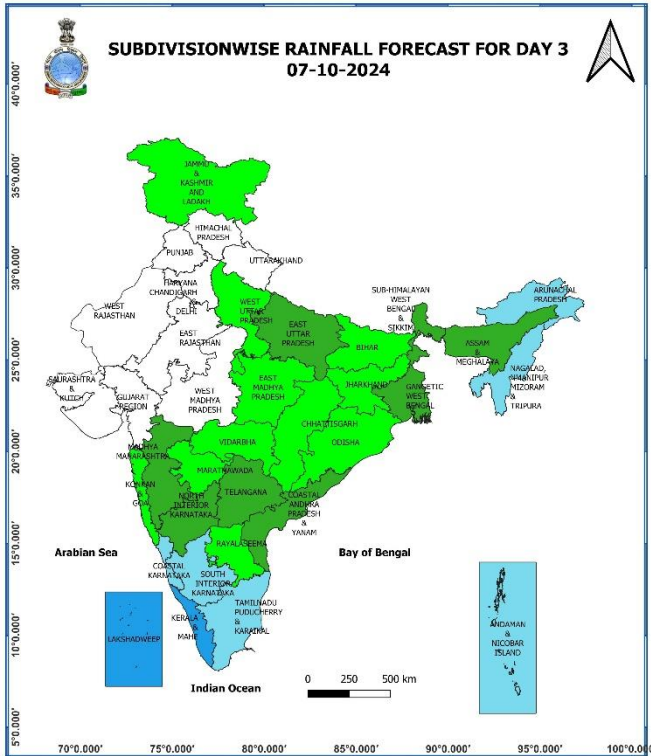
05 October (Day 1):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm) very likely at isolated places over** Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; **Heavy rainfall (≥ 7 cm) very likely at isolated places over** Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Rayalaseema, South Interior Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is prevailing over Lakshadweep area, gulf of Mannar, northern parts of southwest Bay of Bengal and adjoining westcentral Bay of Bengal, off north Tamil Nadu coast.



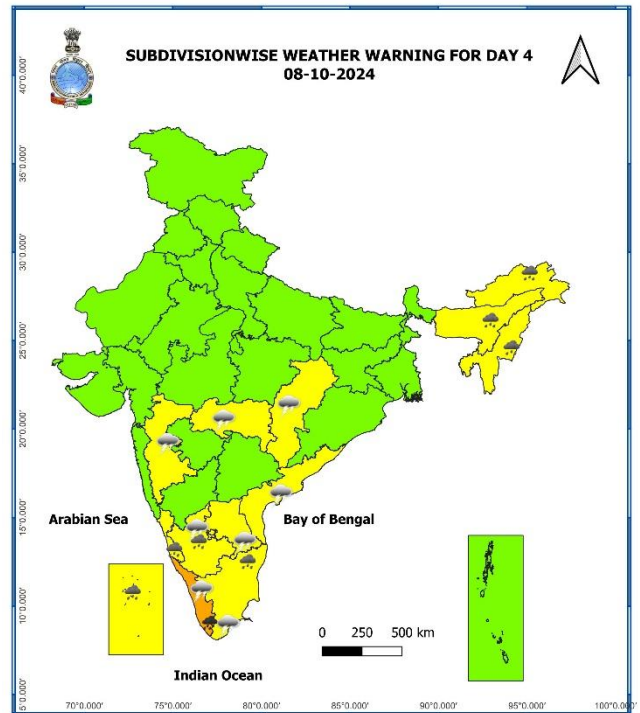
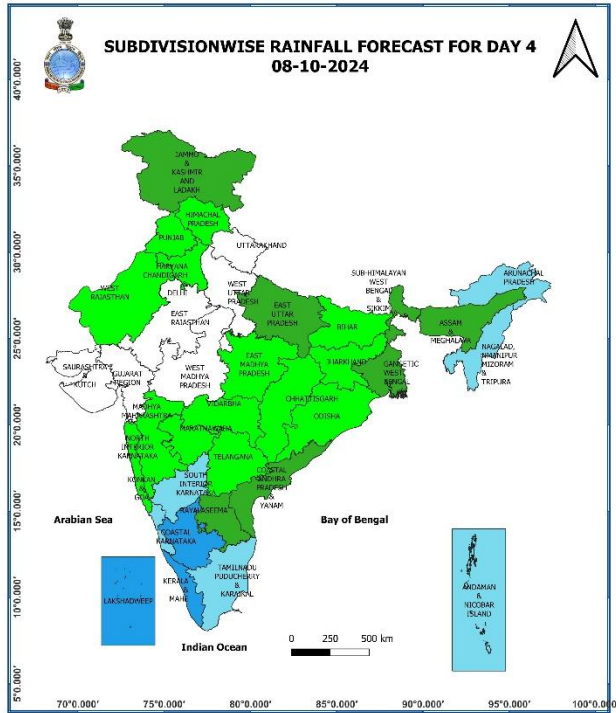
06 October (Day 2):

- ❖ **Heavy rainfall ($\geq 7\text{cm}$)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema, Coastal Karnataka, South Interior Karnataka.
- ❖ **Thunderstorm with lightning & gusty winds (30-40 kmph)** very likely at isolated places over Madhya Maharashtra, **Thunderstorm with lightning** very likely at isolated places over West Bengal & Sikkim, Bihar, Jharkhand, Konkan & Goa, Marathwada, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Interior Karnataka.



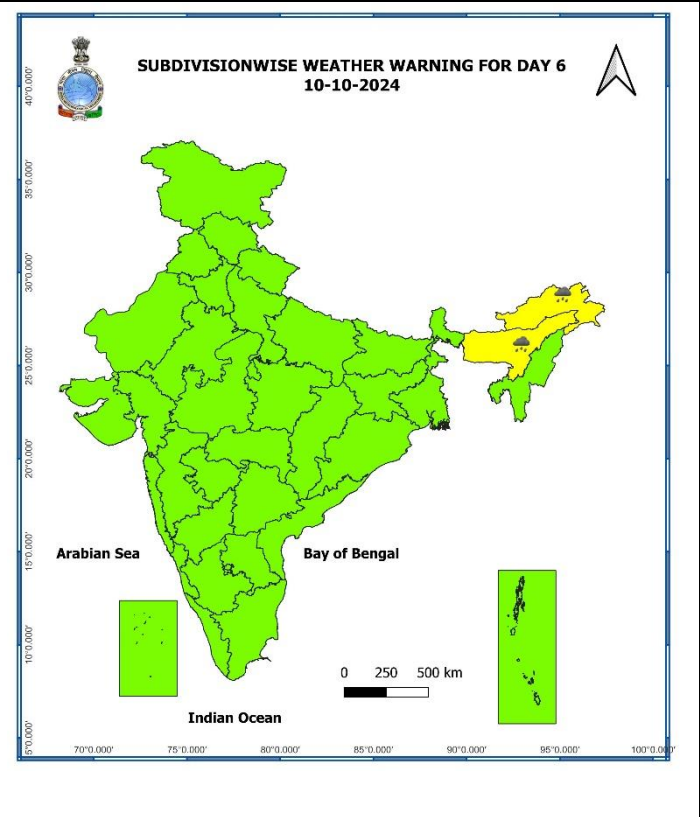
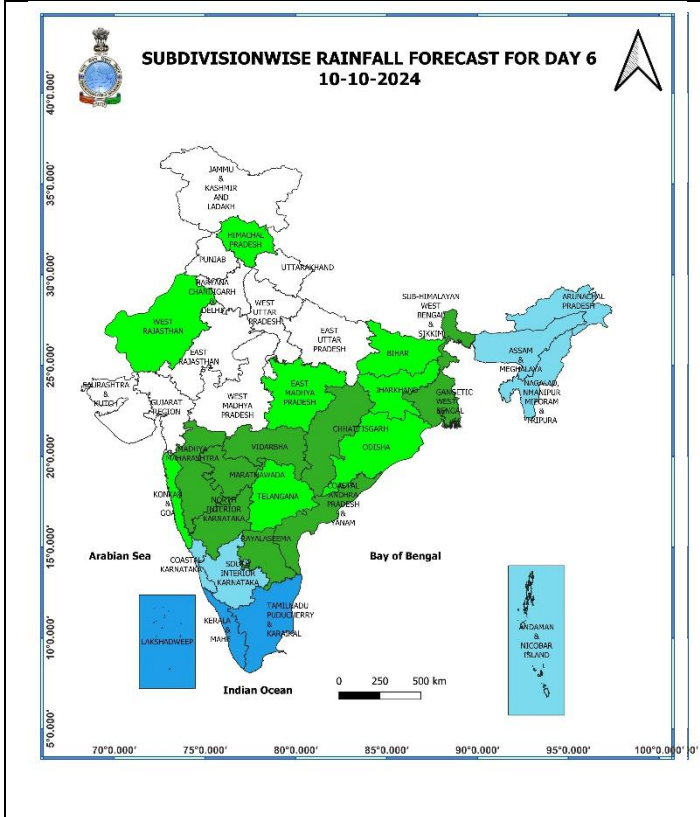
07 October (Day 3):

- ❖ **Heavy rainfall ($\geq 7\text{cm}$)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Karnataka, South Interior Karnataka.
- ❖ **Thunderstorm with lightning & gusty winds (30-40 kmph)** very likely at isolated places over Madhya Maharashtra; **Thunderstorm with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is prevailing over along and off Kerala coast over Lakshadweep area, adjoining Comorin area.



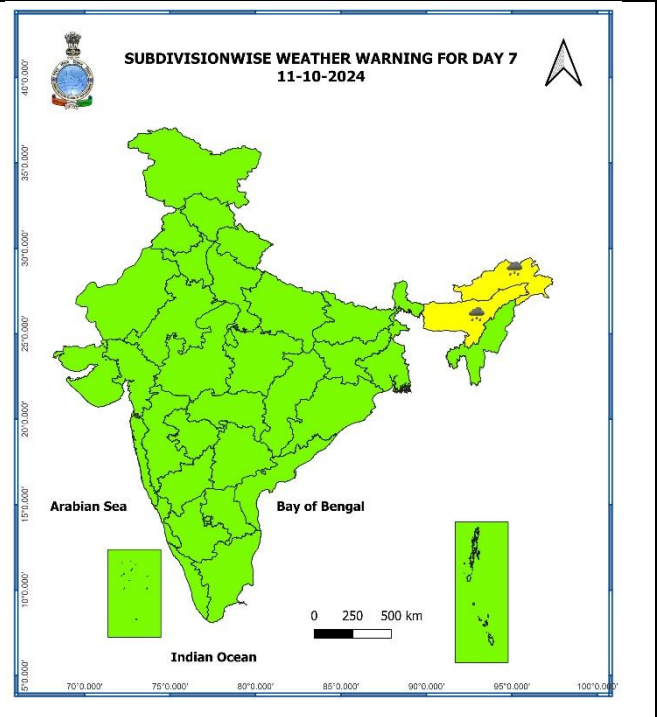
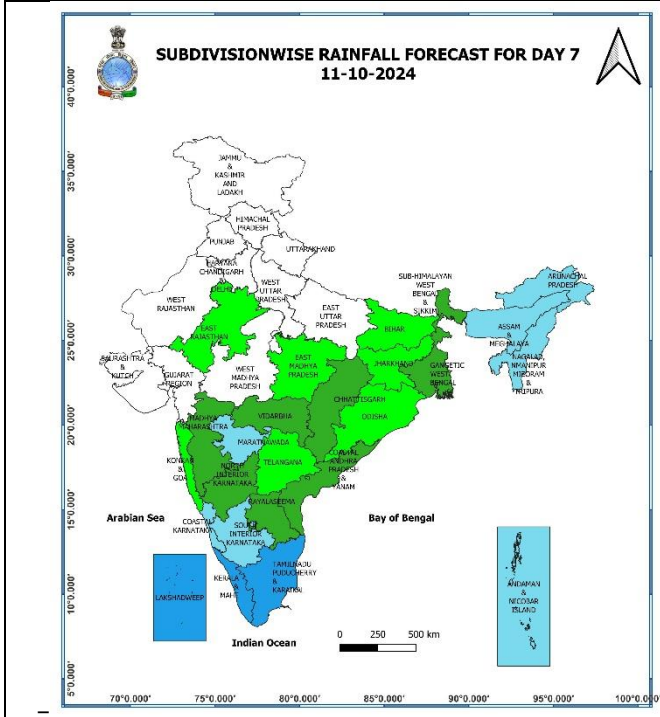
08 October (Day 4):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm) likely at isolated places over Kerala & Mahe, Heavy rainfall (≥ 7 cm) likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Lakshadweep, Coastal Karnataka, South Interior Karnataka.**
- ❖ **Thunderstorm with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is prevailing over along and off Kerala coast over Lakshadweep area, adjoining Comorin area.



10 October (Day 6):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Kerala & Mahe, **Heavy rainfall (≥ 7 cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya Tamil Nadu, Puducherry & Karaikal, Lakshadweep.



11 October (Day 7):

- ❖ **Heavy to very Heavy rainfall (≥12 cm)** likely at isolated places over Kerala & Mahe, **Heavy rainfall (≥7cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Lakshadweep.

Weather Outlook for subsequent 3 days (During 12th October- 14th October, 2024)

- ❖ Fairly widespread to widespread rainfall likely over Peninsular and adjoining Central India, North East India and Islands.
- ❖ Scattered to fairly widespread rainfall over East India.
- ❖ Mainly dry weather will prevail over rest parts of country.

- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

Impact due to

- ✓ **Isolated heavy to very heavy rainfall** very likely over Meghalaya, Arunachal Pradesh on 05th; Tamil Nadu, Puducherry & Karaikal on 5th; Kerala & Mahe on 05th & during 08th -11th October.
- ✓ **Moderate flash flood risk** likely over few watersheds & neighbourhoods of Assam & Meghalaya on 05th & 06th October. **Annexure I)**

Impact Expected

- ✓ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- ✓ Occasional reduction in visibility due to heavy rainfall.
- ✓ Disruption of traffic in major cities and roadways due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutcha roads.
- ✓ Possibilities of damage to vulnerable structure.
- ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- ✓ Damage to horticulture and standing crops in some areas due to inundation and wind.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ Judicious regulation of surface transports including railways and roadways.
- ✓ Check for traffic congestion on your route before leaving for your destination.
- ✓ Follow any traffic advisories that are issued in this regard.
- ✓ Avoid going to areas that face the water logging problems often.
- ✓ Avoid staying in vulnerable structure.

Agromet advisories for Heavy Rainfall likely over various parts of the country

- ✓ Drain out excess water from rice, millets, cowpea, French bean, vegetable crops and orchards in Meghalaya.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in West Bengal & Sikkim, Tamil Nadu, Kerala, South Interior Karnataka, Rayalaseema and North Eastern States.
- ✓ Keep the harvested produce at safer places.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.

(Annexure I)

Flash Flood Guidance

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 06-10-2024 :

Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

Assam & Meghalaya – Bongaigaon, Kamrup Rural, Kokrajhar, Baska, Dhubri, East Garo Hills, South Garo Hills, West Garo Hills, West Khasi Hills, Dhubri and Jaintia Hills districts.

Arunachal Pradesh – Anjaw, Lower Dibang Valley, Dibang Valley, Upper Siang, Lohit, Pupam Pare, East Kameng and West Kameng districts

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.

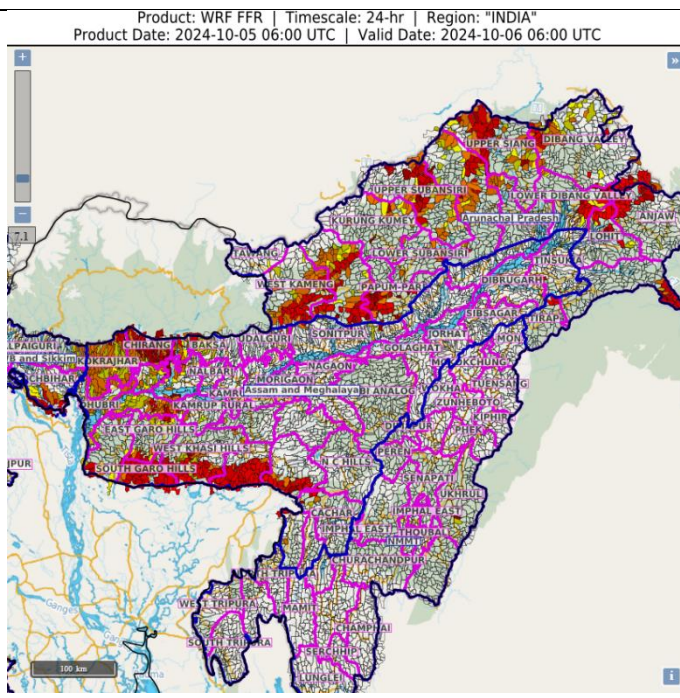


Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

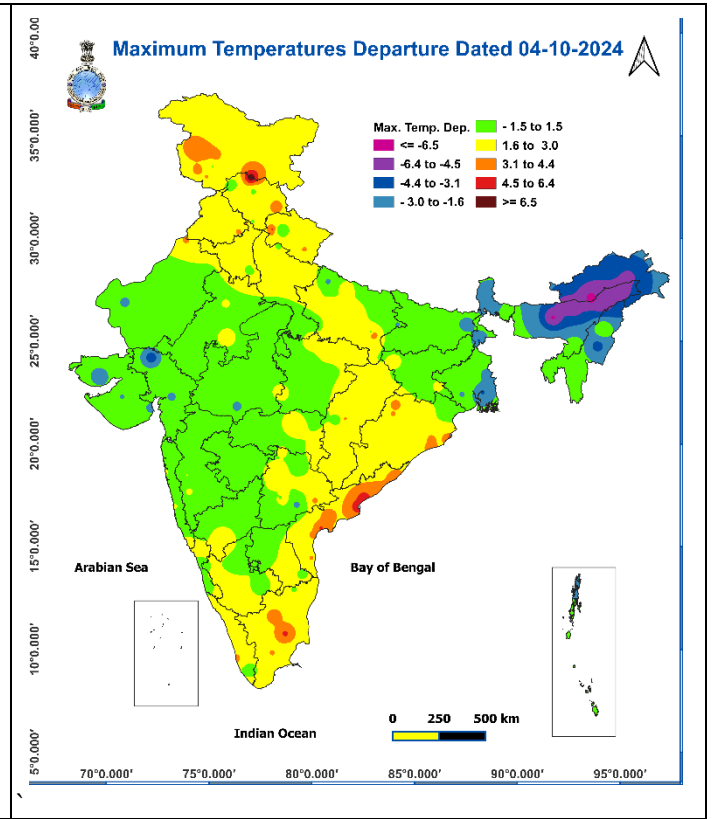
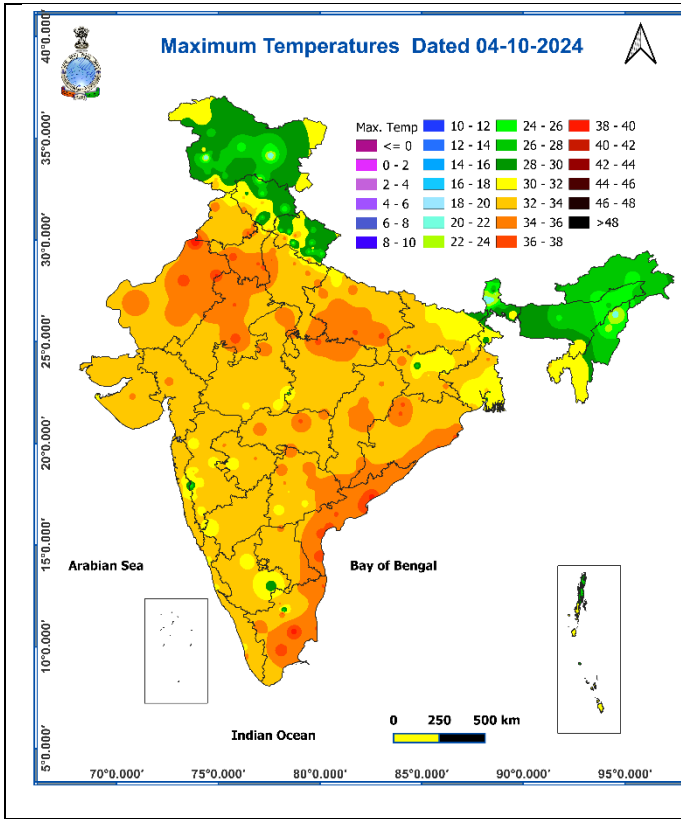


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

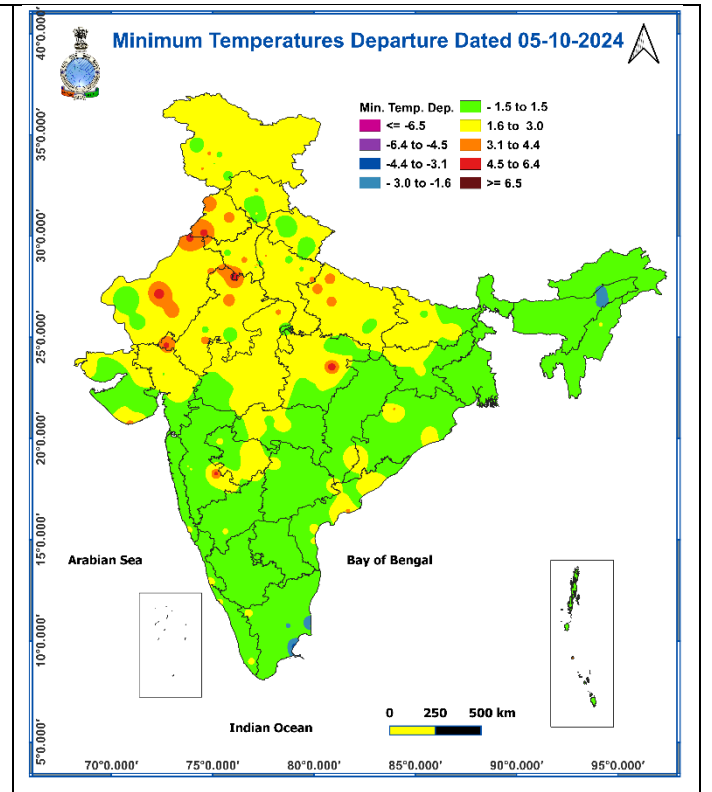
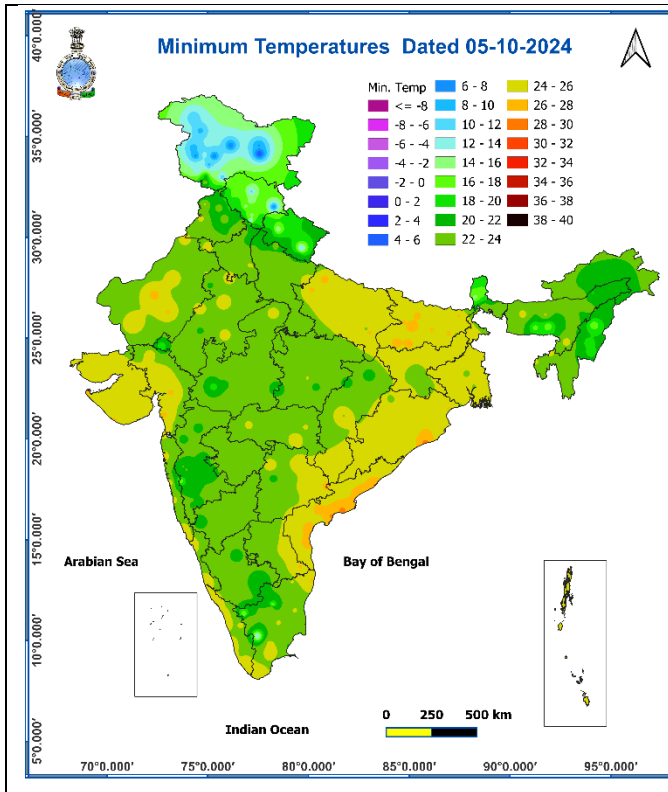
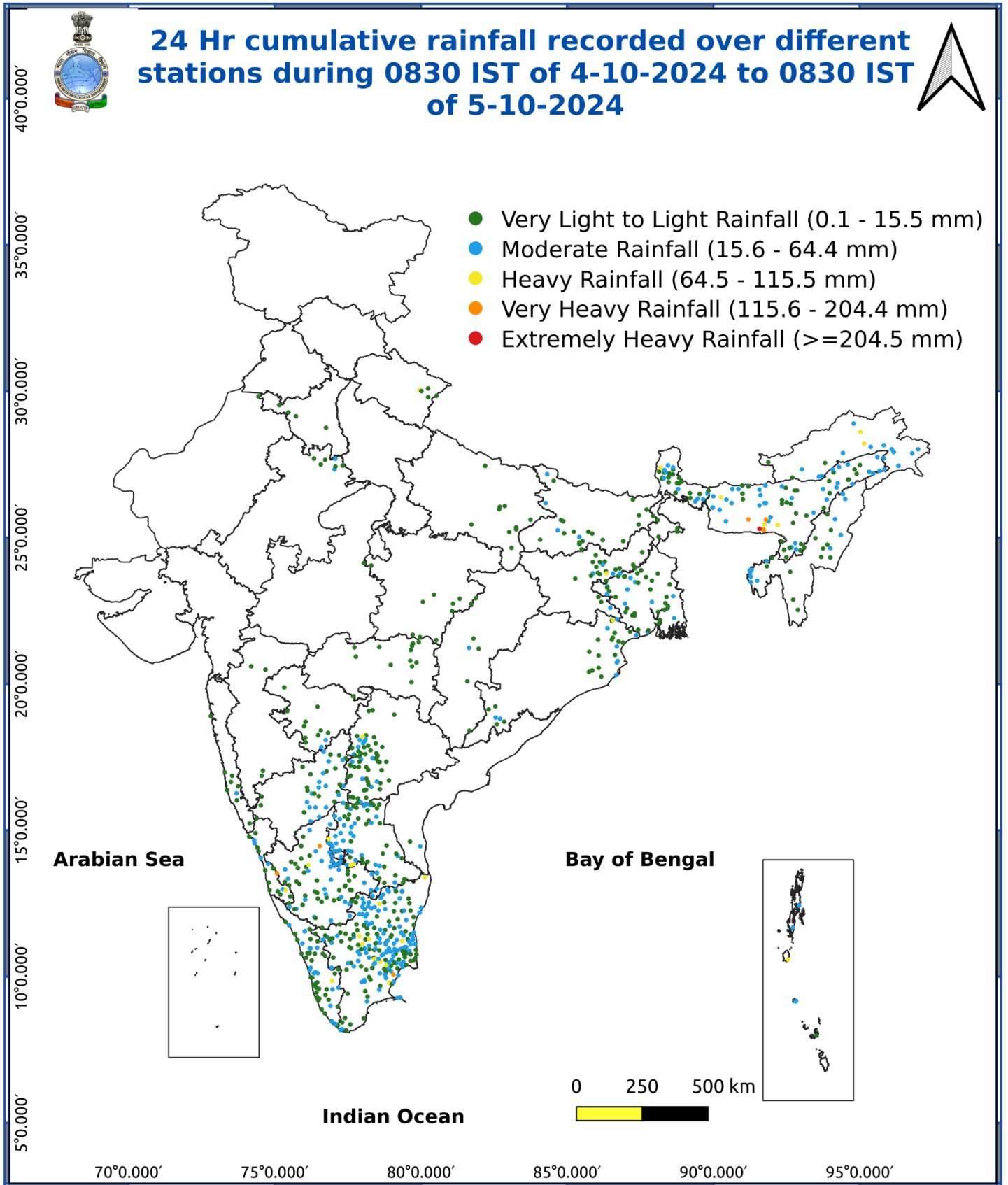


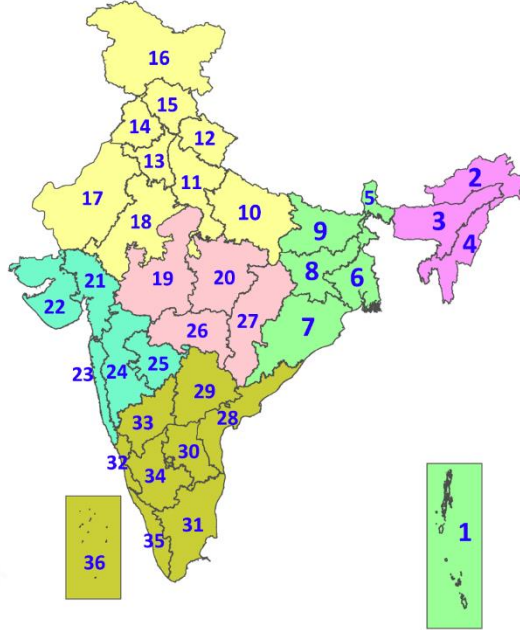
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और माहे
36. लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chandigarh & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidarbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/A Few Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)

- | | | |
|----------------------|----------------------|--------------|
| Fog | Heavy Snow | Cold Wave |
| Heavy Rain | Dust Storm | Cold Day |
| Very Heavy Rain | Heat Wave | Ground Frost |
| Extremely Heavy Rain | Warm Night | |
| Thunder & Lightning | Hot Day | |
| Hailstorm | Hot & Humid | |
| Dust Raising Winds | Strong Surface Winds | |

COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

DEFINITION/CRITERIA

Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *

Heat Wave

When maximum temperature of a station reaches $\geq 40^\circ\text{C}$ for plains and $\geq 30^\circ\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .
Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^\circ\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^\circ\text{C}$.
Severe Heat Wave: When actual maximum temperature $\geq 47^\circ\text{C}$

(c) Criteria for heat wave for coastal stations

When maximum temperature departure is $>4.5^\circ\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^\circ\text{C}$

Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .
Severe Warm Night: When minimum temperature departure $>6.4^\circ\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions.
(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .
Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^\circ\text{C}$
Severe Cold Wave: When Minimum Temperature is $\leq 2.0^\circ\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^\circ\text{C}$ & actual Minimum Temperature is $\leq 15^\circ\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions
Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .
Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres
Dense Fog: when the visibility between 50- 200 metres
Very Dense Fog: when the visibility < 50 metres

Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)

Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.

Frost

Ice deposits on ground

Air temperature $\leq 4^\circ\text{C}$ (over Plains)

Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph
Severe: Wind speed 62-87 kmph
Very Severe: Wind speed >87 kmph

Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre
High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre
Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre

Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)
Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)
Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)
Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)
Super Cyclone Strom: Wind speed >220 kmph (>119 knots)